

Remarks

This paper is filed in response to the Official Action mailed by the USPTO on May 18, 2009 which provided a three months statutory period of time for reply with no additional fee. With this response, the previously presented claims are re-presented along with arguments believed to overcome the Examiner's rejections of the claimed subject matter under 35 USC 103(a). Therefore, claims 1-2, 4, 7, and 9-14 remain pending in the case. Since this response is filed three months after the statutory period for reply provided, a petition for extension of time for three months is also submitted herewith and the Office is authorized to deduct the required fee for such petition from the assignee Monsanto's USPTO Deposit Account No. 13-4125 and to credit any overpayment thereto.

The Applicants thank the Examiner for withdrawal of previous rejections and objections.

Claim Rejections – 35 USC 103(a)

The Examiner has rejected claims 1-2, 4, 7, and 10-14 as unpatentable under 35 USC 103(a) based on the combination of art cited as Donovan et al (US Patent No. 5,322,687) (which the Examiner previously cited as a basis for asserting lack of novelty, and for alleging obviousness alone and in combination with Dun et al (WO99/23233), which were all overcome by previous remarks) in view of Koziel et al (WO 93/07278). It is believed that the objection is again rendered moot by the remarks previously presented as well as additional remarks presented below. Therefore it is respectfully requested that the Examiner reconsider this grounds of rejection and find that the claims are now in condition for allowance.

The Examiner has rejected Claims 1-2, 4, 7, and 10-14 under 35 USC 103(a) as unpatentable over Donovan et al. (1994, US Patent No. 5,322,687) in view of Koziel et al (WO 1993/07278). The Examiner asserts that Koziel et al teaches using other than the most preferred codon at each position and draws attention to Koziel et al page 16, first full paragraph, in which the Koziel specification refers to "partially maize optimized" sequences. The Examiner asserts that this portion of the Koziel et al reference teaches using "other than the most preferred codon at every position". The Applicant traverses this position as asserted by the Examiner and herewith argues that the Examiner has taken a position with reference to this portion of the Koziel et al specification that is out of context of the teachings of the specification. In reading

this full paragraph in Koziel et al., it is clear that Koziel is referring to combining a native unmodified portion of a Bt toxin coding sequence with a portion of the Bt toxin coding sequence which has been modified to contain “optimized sequences”. See Koziel et al., page 16, entirety of the first full paragraph in the middle of that page. The reference to “optimized sequences” in that paragraph refers the reader to the description of “optimized sequences” earlier in the specification. Looking at the earlier portion of the specification which teaches “optimized sequences”, i.e., the paragraph bridging pages 15-16, the specification of Koziel et al teaches “sequences ...in which the ...nucleotide sequences of the native gene have been modified to utilize *preferred codons* for maize.” (emphasis added, first sentence of the referenced paragraph bridging pages 15-16). The immediately preceding paragraph, i.e., the first full paragraph on page 15 of the Koziel et al specification, teaches that the term “preferred codons” refers to the codon in a specific host cell that is used most frequently to encode a particular amino acid. Paraphrasing, the paragraph on page 15 of Koziel et al teaches that a preferred codon is to be used in constructing a gene, so that *that* codon is used to encode any particular amino acid in the gene so constructed. Therefore, the only sequence that the skilled artisan would be *motivated* in the context of KSR to make in view of Koziel et al would be a sequence that uses, at every position for a particular amino acid, the same codon in which the codon is the preferred codon for the intended specific host cell in which the constructed gene is to be used for expression. Thus, the gene constructed for use in a maize cell should contain, at every codon position for any given codon encoding a particular amino acid, the codon that is most frequently used in maize cells to encode that amino acid. In this case, the sequences recited in the claimed subject matter do not utilize the most preferred codon at every position. However, the claimed sequences use a variety of codons for each particular amino acid. Thus, the claimed sequences are believed to be *non-obvious* in view of Koziel et al, and particularly in view of Koziel et al in combination with Donovan et al. The instant claims recite sequences that would never fall within the scope of the limited number of sequences that could be constructed following the teachings of Koziel et al. which use only the most preferred codon at each codon position for any given codon encoding a particular amino acid.

Arguments with reference to Donovan et al made in earlier responses are incorporated herein by reference. It is believed that both Donovan and Koziel have been obviated with these remarks and it is respectfully requested that this 103 rejection be removed.

The same arguments specified above apply to the 103 rejection of claim 9 by the Examiner under paragraph 5 of the May 18 2009 Official Action. Since it would not be obvious to construct the claimed sequences in view of Donovan and Koziel, it is believed that Romano et al also fails as a proper reference, since Romano is inapplicable if the sequences claimed fail with respect to Donovan and Koziel. Therefore, it is respectfully requested that the Examiner remove this grounds of rejection with reference to Claim 9.

The balance of the Examiner's argument related to promoters, obtaining seed and the sale of seed to farmers, untranslated leaders, introns, and terminators, and the requirement for a showing of unexpected results if unsupported in view of the references cited for the rejection based on 103(a) and are believed to be moot.

In view of the fact that Donovan et al. was previously removed as a reference either under 102 or 103, and in view of the fact that the above remarks are believed to have removed Koziel et al as a reference that can reasonably be relied upon for the purposes of obviousness, it is respectfully requested that the Examiner remove this grounds of rejection and find the claims in condition for allowance.

Should any questions arise or if Applicant or Applicant's attorney can facilitate the examination of this application, it is respectfully requested that the PTO contact the undersigned attorney.

Respectfully submitted,

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